

## CLAIMS:

1. A magnetic resonance imaging system including a gradient coil system comprising an inner coil configuration (1,2,3) and an outer coil configuration (4,5,6) that is positioned substantially coaxially with said inner coil configuration, both coil configurations (1,2,3;4,5,6) being attached to a tubular body (7) located between said two coil configurations and extending substantially coaxially with both said coil configurations, characterized in that said tubular body (7) comprises stainless steel rods (10) which are positioned substantially in axial direction.
2. A system as claimed in claim 1, characterized in that stainless steel rods (10) are present in the central portion of the tubular body (7).
3. A system as claimed in any one of the preceding claims, characterized in that stainless steel rods (10) extend substantially over the entire length of said tubular body (7).
4. A system as claimed in any one of the preceding claims, characterized in that said stainless steel rods (10) are connected to each other at both ends (14) of each rod (10).
5. A system as claimed in any one of the preceding claims, characterized in that said tubular body (7) comprises a stainless steel cylindrical wall (12) having axial slits (13).
6. A system as claimed in any one of the preceding claims, characterized in that said stainless steel rods (10) are strips positioned substantially in a cylindrical plane (12,16).
7. A system as claimed in any one of the preceding claims, characterized in that a plate-like element (15) is wound into a spiral shape in order to form a cylindrical wall (16), such that said plate-like element (15) comprises substantially parallel stainless steel strips, the stainless steel strips extending in substantially axial direction after the cylindrical wall (16) has been formed.

8. A system as claimed in any one of the preceding claims, characterized in that at least some of said rods (10) comprise cooling channels (18) for guiding a cooling medium.

9. A system as claimed in any one of the preceding claims, characterized in that  
5 at least some of said rods (10) comprise an axially extending space (19) for accommodating pieces of shim iron.